

## CLAIMS

1) Device for eliminating the particles contained in a stream of fluid comprising a container (10) with a passage for the fluid stream in turbulent flow and a plurality of objects oriented transversely relative to the direction of flow, said objects having edges communicating with the stream of fluid and defining between them at least one stagnant space where the particles are recovered; characterized in that

- (a) the objects are plates provided with slots that extend inward from said edges;
- (b) or the objects are pleated elements such that each side of the pleats is in contact with the stream of fluid;
- (c) or the objects are comprised of a fibrous pad, a fibrous mat, or a fibrous fabric disposed along the gas stream;

such that the slots, edges of the two sides of the pleated elements, or pads, fabrics, or fibers furnish additional edges for catching particles.

2) Device according to Claim 1, characterized in that said objects are also located near each other in a direction other than the direction of flow.

3) Device according to Claim 1, characterized in that said objects are charged with static electricity.

4) Device according to Claim 1, characterized in that the turbulent flow is transformed into viscous flow in said spaces.

5) Device according to Claim 1, characterized in that said objects are plates disposed near each other, transversely to the direction of flow.

6) Device according to Claim 1, characterized in that said objects are screens with meshes located near each other, each being mounted on a frame, said mesh screens

generally being placed transversely relative to the direction of flow.

7) Device according to Claim 1, characterized in that the open channel is sloped such as to facilitate elimination of the particles collected in said spaces by gravity.

8) Device according to Claim 1 having means for shaking and/or moving the surfaces on which the particles are collected to facilitate their elimination.

9) Device according to Claim 1, characterized in that the pad, the mat, or the fibrous fabric define the flow channel of the fluid stream.

10) Device according to Claim 9, characterized in that said flow channel is tubular.

11) Device according to Claim 9, characterized in that said flow channel has a pleated shape.

12) Device according to Claim 9, characterized in that said flow channel has a spiral shape.

13) Method for elimination of particles contained in a fluid stream with turbulent flow, comprising penetration of vortices from at least part of said stream into spaces defined between objects disposed near each other and recovery of said particles from the surfaces of said objects as the vortices are damped.